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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/486,262	06/12/2000	KIYOHICO UCHIDA	99807MN	3573

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EXAMINER

JIMENEZ, MARC QUEMUEL

ART UNIT	PAPER NUMBER
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3726

DATE MAILED: 04/05/2004

26

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/486,262

Applicant(s)

UCHIDA ET AL.

Examiner

Marc Jimenez

Art Unit

3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. <u>26</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 8-23 is withdrawn in view of the newly discovered reference(s) to Asaumi et al. (4,533,581). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claim 6** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites "a workability improver" in line 4, however, claim 1 already recited the workability improver in the last 6 lines. This limitation renders the scope of the claims unclear because claim 6 appears to recite an additional workability improver. Claim 6 recites "a hydraulic powder" and "a non-hydraulic powder" in line 5. It is unclear whether these powders are the same as the hydraulic powder in claim 1, line 12 and the non-hydraulic powder in claim 1, line 13 or additional powders of the hydraulic composition recited in claim 1, line 12.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 12, 13, 15, 17-19, 21, and 23** are rejected under 35 U.S.C. 102(b) as being anticipated by Asaumi et al. (4,533,581).

Asaumi et al. teach a forming a plurality of cylindrical molded bodies (col. 3, line 59) by press molding (col. 3, line 52) a mixture of a hydraulic composition comprising a hydraulic powder (col. 2, lines 56-57) and a non-hydraulic powder (col. 2, lines 27-38, mica is non-hydraulic, see also US 2003/0155548 at para. [0030] which states that typical examples of non-hydraulic powders include mica) and a workability improver (col. 3, lines 11-15), each of the cylindrical molded bodies having a hole at a central portion through molding the hydraulic composition (col. 3, lines 59-68), releasing, curing and hardening the molded bodies (col. 3, lines 52-68), and connecting adjacent cylindrical molded bodies (col. 3, lines 61-62), and thereby integrally forming a cylindrical roller portion around an outer peripheral surface of the rotary shaft, wherein the workability improver is a material that has a property of improving moldability, mold-releasability, cutting/grinding workability, and grinding accuracy of the molded bodies (col. 3, lines 11-15, “improves the surface smoothness and abrasion resistance” and “improves cutting processability”).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1, 3, 5, 6, and 24-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Asaumi et al. (4,533,581) in view of Rirsch et al. (4,880,467).

Asaumi et al. teach a rotary shaft (col. 3, line 62), and a cylindrical roller integrated with an outer periphery of the rotary shaft (col. 3, line 62), wherein the cylindrical roller comprises a mixture of a hydraulic composition comprising a hydraulic powder (col. 2, lines 56-58, Portland cement or alumina cement) and a non-hydraulic powder (col. 3, lines 27-30, mica is non-hydraulic, see also US 2003/0155548 at para. [0030] which states that typical examples of non-hydraulic powders include mica).

Asaumi et al. teach the invention cited with the exception of combining a powder or emulsion of at least one resin selected from the claimed group with the above hydraulic powder and non-hydraulic powder.

Rirsch et al. teach that it is known to use polymer lattices such as vinyl acetate polymer and acrylic ester polymer in combination with hydraulic cement to impart greater plasticity and workability (col. 3, lines 54-68).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Asaumi et al. with a powder or emulsion of at least one resin selected from the claimed group with the above hydraulic powder and non-hydraulic powder, in light of the teachings of Rirsch et al., in order to impart greater plasticity and workability (as suggested by Rirsch et al. at col. 3, lines 54-68).

Regarding claim 3, Asaumi et al. teach that the cylindrical roller portion is formed by connecting a plurality of cylindrical molded bodies in a direction of the rotary shaft (col. 1, lines 13-15).

Regarding claim 5, Asaumi et al. teach that the cylindrical molded bodies have interengaging shapes because they are stacked with each other (col. 3, lines 59-60).

Regarding claim 6, Asaumi et al. teach the claimed amount of workability improver (col. 2, line 68), hydraulic powder (col. 3, lines 25-26), and non-hydraulic powder (col. 2, lines 40-41).

Regarding claims 24-26, Rirsch et al. teach the claimed resins (col. 3, lines 61-68).

Regarding claims 27-30, Rirsch et al. teach the resins of claims 24-26 rather than those claimed in claims 27-30. At the time of the invention, it would have been an obvious matter of design choice to a person of ordinary skill in the art, to have used the resins of claims 27-30 because applicant has not disclosed that the resins of claims 27-30 provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with either the resins of claims 24-26 taught by Rirsch et al. or the claimed resins of claims 27-30 because either resins perform the same function of improving workability equally well.

8. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Asaumi et al. in view of Rirsch et al. as applied to claim 1 above, and further in view of Bauer et al. (4,718,154).

Asaumi et al./Rirsch et al. teach the invention cited with the exception of having two rotary shaft portions axially inwardly inserted from opposite sides of the cylindrical roller portion.

Bauer et al. teach that it is known to provide two rotary shaft portions 9 axially inwardly inserted from opposite sides of the cylindrical roller portion 8.

It would have been obvious to one of ordinary skill in the art at the time of the invention, to have provided the invention of Asaumi et al./Rirsch et al. with two rotary shaft portions, in light of the teachings of Bauer et al., in order to reduce the weight of the roll.

9. **Claim 4** rejected under 35 U.S.C. 103(a) as being unpatentable over Asaumi et al. in view of Rirsch et al. as applied to claim 3 above, and further in view of Fuchs et al.

Asaumi et al./Rirsch et al. teach the invention cited in the rejection of claim 3 above, with the exception of having connecting core rod extending over the two cylindrical molded bodies.

Fuchs et al. teach a core rod 6 extending over the two cylindrical molded bodies in fig. 4.

It would have been obvious to one of ordinary skill in the art at the time of the invention, to have provided the invention of Asaumi et al./Rirsch et al. with a core rod, in light of the teachings of Fuchs et al., in order to reinforce the adjacent discs and to keep the discs in contact with each other.

10. **Claims 8-11, 16, and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Asaumi et al. in view of Fuchs et al. (5,257,965).

Asaumi et al. teach that the hole at the center of the press molding is made by pressing the shaft through the press molding (col. 3, line 62) rather than inserting the rotary shaft through pre-formed holes of the press molded bodies.

Fuchs et al. teach that it is known to make preformed holes in cylindrical bodies 1 and then inserting a shaft 3 therethrough.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Asaumi et al. with preformed holes in the cylindrical bodies, in light of the teachings of Fuchs et al., in order to make symmetrical and identical holes that can receive the rotary shaft.

Note that Asaumi et al. teach forming "green press molded bodies" (col. 3, lines 55-58) each having a hole at a central portion (col. 3, lines 61-62), releasing the green press molded bodies (col. 3, line 55-58, "press-molded under dehydration"), connecting adjacent cylindrical green press molded bodies (col. 3, line 61), and forming a cylindrical shaped body through curing and hardening (col. 3, lines 55-58, "dried" and col. 3, lines 61-68).

Regarding claims 9 and 11, Asaumi et al. teach that the discs have interengaging shapes because they are stacked with each other (col. 3, line 62).

Regarding claims 16 and 22, Asaumi et al. teach the invention cited in the rejection of claims 15 and 19 above, with the exception of having connecting core rod extending over the two cylindrical molded bodies.

Fuchs et al. teach a core rod 6 extending over the two cylindrical molded bodies in fig. 4.

It would have been obvious to one of ordinary skill in the art at the time of the invention, to have provided the invention of Asaumi et al. with a core rod, in light of the teachings of Fuchs et al., in order to reinforce the adjacent discs and to keep the discs in contact with each other.

11. **Claims 14 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Asaumi et al. in view of Strandel (3,577,619).

Asaumi et al. teach the invention cited above, in the rejection of claim 12 above, with the exception of having a screw portion provided at one end portion of the rotary shaft portion.

Strandel teaches that it is known to provide one end portion of the rotary shaft portion with a screw portion to securely fasten a rotary shaft 1 to cylindrical roller portions 4.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Asaumi et al. with a screw portion on the rotary shaft portion, in light of the teachings of Strandel, in order to securely fasten the rotary shaft portion to the cylindrical portions of the roll.

Response to Arguments

12. Applicant's arguments with respect to claims 1-6 and 9-30 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

13. Telephone inquiries regarding the status of applications or other general questions, by persons entitled to the information, should be directed to the group clerical personnel. In as much as the official records and applications are located in the clerical section of the examining groups, the clerical personnel can readily provide status information. M.P.E.P. 203.08. The Group clerical receptionist number is (703) 308-1148.

If in receiving this Office Action it is apparent to applicant that certain documents are missing, e.g., copies of references cited, form PTO-1449, form PTO-892, etc., requests for copies of such papers or other general questions should be directed to Tech Center 3700 Customer Service at (703) 306-5648, or fax (703) 872-9301 or by email to CustomerService3700@uspto.gov.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Jimenez whose telephone number is 703-306-5965. The examiner can normally be reached on **Monday-Friday, between 5:30 am-2:00 pm**. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

Other helpful telephone numbers are listed for applicant's benefit.

Allowed Files & Publication	(703) 308-6789 or (888) 786-0101
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MJ

March 30, 2004

